

OHS Safe Systems of Work - Lift Examinations

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1. FOREWORD

1.1 Purpose

The purpose of this safe system of work is to consider in some depth the hazards and risks of undertaking lift examinations and to take steps to minimise the hazards so as to reduce those risks, so far as is reasonably practicable.

A hazard is a physical situation with a potential for harm to life and limb, and a risk is the probability that a hazard may be realised in a given span of time or the probability that an individual may suffer injury as a result of the realisation of a hazard.

1.2 Engineer Surveyor Responsibility

The responsibility for the safety of Engineer Surveyors working on lifts may have to be shared between:

- a. The employers and supervisors of Engineer Surveyors working on lifts;
- b. The Engineer Surveyors working on lifts;
- c. The persons who have effective control of the premises containing the lifts;
- d. Employees of other employers also working on the premises.

1.3 Engineer Surveyor Training

All Engineer Surveyors working on lifts must have undergone adequate training from experienced field staff, and technical training to provide a good understanding of lift installations.

1.4 Safety of Others

All Engineer Surveyors working on lifts must take the proper care in respect of both their own safety, and the safety of others on the premises.

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1.5 Risk Assessment

Every lift examination should be properly assessed and planned by the Engineer Surveyor, paying particular attention to safeguards that need to be taken whilst work is being carried out.

1.6 Other Guidance

This safe system of work is of a general nature, and should be read in conjunction with any other applicable publications/instructions issued to the Engineer Surveyor.

1.7 Unoccupied Premises

No Engineer Surveyor shall work alone on lifts in unoccupied premises.

1.8 Lone Workers

Engineer Surveyors are normally lone workers whilst on client's premises (see Lone Workers Instruction: OHS 8.2-01). Sometimes the precise whereabouts of Engineer Surveyors in a client's premises is not known. It is incumbent on the Engineer Surveyor to ensure the clients' site staff (or other responsible person) communicate with him at suitable intervals or vice-versa. The degree of risk will determine what is considered a suitable interval, and has to be left to the judgement of the Engineer Surveyor.

1.9 Occupiers' Responsibilities

Engineer Surveyors' health and safety is also the responsibility of the occupier of the premises provided that the occupier is also an employer (or self-employed) and is conducting an undertaking there.

2. LEGISLATION AND OTHER PUBLICATIONS

2.1 Summary of relevant legislation

A summary of relevant legislation:

- a. The Health and Safety at Work etc. Act 1974.
- b. The Factories Act 1961.
- c. The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998.
- d. The Provision and Use of Work Equipment Regulations (PUWER) 1998.
- e. The Lift Regulations 1997.
- f. Health & Safety (First Aid) Regulations 1981.
- g. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995.

This list is not exhaustive and reference may need to be made to other legislation as applicable. Equivalent provisions apply in Northern Ireland. Different legislation exists in Eire.

2.2 Other Publications

Other relevant publications include:

- a. Health & Safety Executive Guidance/Advice Notes
 - i). LG1 – Guidelines on the Thorough Examination & Testing of Lifts

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- ii. PM26 - Safety at Lift Landings
 - iii. GS/5: - Entering into confined spaces
 - iv. LA455 - Safe use of ladders and step ladders
 - v. SHW 276 - Precautions in the Working of Lifts
 - vi. IND(G)73L - Working alone in safety - Controlling the risks of solitary work
- b. British Standards:
- i. BS5655
 - ii. BS7255
 - iii. BS EN 81-1
 - iv. BS EN 81-2
 - v. BS EN 81 Series as prescribed in ES-L-11 (Passenger Goods & Goods Only Lifts)
- c. In-house procedures/instructions (ES-L series of documents)

3. DEFINITIONS

3.1 Landing

The space required at the entrance to a lift at any defined level to permit manoeuvring, loading and alighting of users and/or goods.

3.2 Lift

A permanent lifting equipment comprising a guided car/platform and used for the transportation of persons/goods from one level to another.

3.3 Lift Car /Platform

the complete load carrying unit.

3.4 Lift Machine

the unit which drives and stops the lift.

3.5 Machine Room

A room in which lift machines are placed.

3.6 Main Switch

A switch which should break the electrical supply to the lift on all "live conductors" but excluding:

- a. Lighting in machine room
- b. Socket outlets in machine room
- c. Lighting in the well
- d. Car lighting
- e. Socket outlet on car roof
- f. Socket outlet in pit
- g. Alarm device

N.B. It should not be assumed the electrical supply is maintained to those components and devices listed in a to g inclusive.

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3.7 Pit

The part of the lift well situated below the lowest landing.

3.8 Pulley Room

A room not containing the lift machine in which the pulleys may be housed.

3.9 Well

The space in which the car/platform and counterweight (if fitted) travels.

4. TRAINING

Training should be in accordance with the appropriate Procedure applied to the following:

- a. the construction and functional characteristics of lifts and their environments
- b. The hazards associated with their inspection and use and procedures to minimise these hazards so as to reduce the risks
- c. Statutory instruments and any other publications/instructions issued to the Engineer Surveyor on a controlled basis
- d. The use of protective clothing and safety equipment.

5. HAZARDS

5.1 Anticipate the Consequences of Actions

Many accidents occur because people do not think ahead as to what can happen as a result of their own actions. The personal responsibility of each Engineer Surveyor to use safe working methods is vital.

5.2 Known Hazards

A short list of some examples of how injury can occur:

- a. Trapping points - a hand being caught between the suspension ropes of a traction sheave or diverter pulley. Getting caught between the car and counterweight. A foot between the car sill and landing sill.
- b. Falling - down well. Lack of safe access, suitable ladders.
- c. Catch points - clothing or rings getting caught on protruding features or switches
- d. Dangerous projections - coming into contact with protruding bolts, hoistway fixtures.
- e. Electricity - working on live equipment.
- f. Not displaying warning notices indicating the lift is "Under Inspection" or lift is isolated.
- g. Fumes and Dusts - site processes.

6. SAFE WORKING - GENERAL

6.1 Clients Consent

Before starting work or taking a lift out of service permission to do so should be obtained from a responsible person at the client's site.

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6.2 Appropriate Clothing

Engineer Surveyors shall wear suitable close fitting protective clothing eg. boilersuit, gloves, which shall be kept in good condition and properly worn. Ties, scarves, bandages and other items with loose ends are potentially dangerous. Boots or shoes should be in good condition. 'Trainers' and other types of casual footwear are considered inappropriate, unsafe and shall not be worn.

6.3 Safety Equipment

Appropriate personal safety equipment i.e. safety helmet, hearing protectors, harness etc. should be used by an Engineer Surveyor according to site conditions.

6.4 Display Notices

Prior to commencement of examinations "Under Inspection" notices should be prominently displayed at the following locations:

- a. At all landing levels
- b. In the car/on the platform
- c. In the machine room
- d. Other positions as considered appropriate.

6.5 Permit to Work

In certain cases, ensuring that systems of work are safe may be achieved with the help of Permits to Work. Such written permits formalise the progression through a particular examination and should be complied with where required. They may require clearances at specific stages throughout the examination, and a signed go-ahead that it is safe to continue from a named, specially appointed person at the site concerned. Only when this is done, may the next stage go ahead.

6.6 Adequate Lighting

Where lighting of the well and/or machinery room is provided it shall be used during the inspection.

Always use a safe means of access to reach parts of plant requiring inspection above ground level: i.e. properly secured ladders or access platforms. When working above ground level, a safety harness should be worn by the Engineer Surveyor if there is an identifiable risk of falling.

7. MACHINE/PULLEY ROOM

7.1 Safe Access

Means for safe access must be provided to machine/pulley rooms.

7.2 Known Hazards

In a machine/pulley room beware of features that may cause injury, such as:

- a. Holes in the floor.
- b. Overhead beams lower than head height.

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- c. Unguarded machinery which may move without warning.
- d. Exposed electrical connections or cables which may be 'live'.

7.3 Locate Isolation Switch

Before starting work, note the position of the electrical supply isolator and use as considered appropriate.

7.4 Guards

Dangerous machinery should be guarded; if this is not reasonably practicable it might have been painted yellow to warn of the potential danger.

Some aspects of examinations require moving parts of machinery to be examined with the guards not in position or where no guards are fitted. In such cases, particular care should be taken to avoid 'nip-points' (e.g. between moving ropes and sheaves).

7.5 Rope Inspection

Always wear gloves when inspecting ropes, and never inspect ropes when they are moving.

7.6 Restoration Check

If the electrical supply has been isolated, prior to restoration it should be ensured that the equipment is safe and that no one will be endangered.

7.7 Working with Electricity

Do not work on, near or approach closely to any live electrical conductor (other than one that is suitably covered with insulating material so as to prevent danger).

When working near live controllers (to operate a reset device for example), care should be taken to ensure all precautions are taken: such as standing on a rubber mat, use of rubber gloves as appropriate.

7.8 Safe Egress

On leaving the machine room, ensure the entrance door/hatch is closed and locked to prevent unauthorised access.

8. LIFT WELL

8.1 Safe Access

It is usual to gain access to the well via the top landing door(s), with the car positioned some convenient distance below its normal position from the landing.

8.2 Use of Door Release Keys

To achieve this, an emergency door release key should be used to unlock the landing door and stop the car at the required position. 'Loose' landing door beaks shall not be used. With the landing door open, it should be ensured the car does not respond to any call' or 'send' signal.

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8.3 Car Top Controls

The car top stop switch should be checked for effective operation by switching to the 'off' position, closing the landing door and checking the car does not respond to any 'call' or 'send' signal.

Test the operation of the car top controls in the 'inspection' mode by ensuring the stop switch is 'on/out', closing the landing door and checking the car does not respond to a 'call' or 'send' signal.

Test simultaneous operation of car top stop switch and car top control 'inspection' mode by ensuring the car top stop switch is 'off' and the car top control is in 'inspection' mode, closing the landing doors and checking the car does not respond to a 'call' or 'send' signal.

Note: The car top controls inspection/normal and car top stop switches should be checked for correct operation both individually and under simultaneous operation.

Once on car top, functional checks of run controls should be carried out to confirm correct operation, prior to commencement of examination.

8.4 Known Hazards

Before entering, well-acquaint oneself with the surroundings, means of access and any hazards that may be present: e.g. insufficient clearance between the top of the car and the top of the well when the car is at the highest level, unguarded diverter pulleys on car top, adjacent lift(s), projecting equipment, and gaps at side of car top into hoist way etc.

8.5 Landing Doors

Landing doors should not be left open for longer than is necessary. They should never be left unattended.

8.6 Car Ceilings

Extreme caution should always be exercised when stepping on car ceilings/roofs, which may not have been designed to take a person's weight, or where oil or grease may be present.

8.7 Stable Position

Take up a position on the car top where no part of your body or clothing will project beyond the car perimeter edges. Maintain a position that gives good balance and select a secure and firm hand-hold. Do not hold moving parts (e.g. ropes, sheaves). Test that the car top 'stop' mechanism operates correctly when travelling downwards. After the car has been moved to a new place put the car top stop switch in the 'off' position.

8.8 Nominated Operator

When there is more than one person on the car top (eg. during Engineer Surveyor training) one person shall be nominated to be in sole charge of the operating controls. It is essential for all parties in such circumstances to be aware of how and when the car is to be moved.

8.9 Stop Device Only!

In cases where only a 'stop' device is fitted at the car top, the person appointed to operate the normal car controls from within the car should be a responsible person for this purpose.

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This person must be told to follow the Engineer Surveyor's instructions to the letter. When the car has been moved to a new position, the car top controls should be switched to the 'off' position.

8.10 Ascending

Particular care should be exercised when on the car top, whilst the car is ascending.

8.11 Safe Access to Pit

On all hydraulic, and electric lifts where the space below the car is restricted; a means of mechanical restraint (e.g. prop, scotch, guide-clamp or similar device) should be provided and used to create a safe working space between the lowest part of the underside of the car, and the bottom of the pit with the car resting on its fully compressed buffers.

A ladder should be used to gain safe access to the lift pit as appropriate.

Before entering the pit, the 'pit switch' should be checked for effective operation by setting it to the 'off/in' position and closing the pit access door/landing gate and checking the car does not respond to a 'call' or 'send' signal.

8.12 Known Hazards in Pits

Care should be taken in lift pits when adjacent to unguarded counterweights. Beware of water which will increase the severity of any electric shock and which can also conceal the true depth of the pit.

8.13 Egress from Pit

The Engineer Surveyor should remain in the lift pit for only as long as is absolutely necessary, and the means of access (e.g. landing door or other door provided for direct access) should be positively held in the open position to allow egress from the lift pit.

A lift car shall not be driven with an Engineer Surveyor in the pit area with the landing doors closed, except:

- a. When operating a pit controller – but only after assessing safe operating conditions and egress.
- b. When undertaking 2-person working. However, the preceding safe operating conditions in Para 8.1.3.a. must be met, and the person deemed responsible for operating the car top control must follow the pit-based Engineer Surveyor's instructions (as per Para 8.8); travelling upwards only – away from the pit-based Surveyor when testing switches, and engaging the stop switch whenever stationary.

9. LIFT LANDINGS

9.1 Open Landing Doors

It should be remembered that whenever a landing door is unlocked or open with the car not stationary nor at the level of the landing, there is a distinct possibility that persons at that landing may be at risk. A landing gate should never be left open and unattended.

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9.2 Landing Barriers

Landing barriers, if available on site, should be used where and when considered appropriate.

9.3 Known Hazards

Potential hazards at landings include:

- a. Persons falling down the well from the landing.
- b. Persons gaining access to the car when it is not at the level of the landing, or gaining access to parts of the car or well which are normally not accessible.
- c. Persons coming into contact with moving parts of the lift.

9.4 Danger to Others

Engineer Surveyors should be acutely aware that these hazards may endanger occupants of the building as well as members of the general public including children and old people.

9.5 Security of Unlocking Devices

Landing door unlocking devices are potentially dangerous in the wrong hands, and should be returned after use to the client's responsible person. After a landing door has been unlocked, it should always be checked after reclosing to ensure that it has effectively secured.

10. SUMMARY

10.1 Risk Assessment

The preceding sections serve to outline the main considerations in achieving a safe system of working on lifts. No such system can ever reasonably be considered entirely comprehensive, as the physical layout and operational facilities provided vary considerably from lift to lift, and the safe system of work must therefore be adopted to take into account the particular characteristics of the installation being examined.

10.2 Other Guidance

This document should be read in complete context with any other relevant issued publication on the subject.

Owner
Jane Nash

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